



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/572,959

04/24/2006

Tomoaki Omoto

2006_0381A

3155

513 7590 05/23/2007
WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

GREEN, ANTHONY J

ART UNIT

PAPER NUMBER

1755

MAIL DATE

DELIVERY MODE

05/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/572,959

Applicant(s)

OMOTO ET AL.

Examiner

Anthony J. Green

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/21/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

1. The preliminary amendment submitted on 21 March 2006 has been entered.

Claim 4 has been added and accordingly claims 1-4 are currently pending.

Specification

2. The disclosure is objected to because of the following informalities: Applicant needs to remove the reference to the claims from the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicant recites in the claim the use of carbon powders other than carbon black and the specification teaches that coke and graphite or the like may be used however it is unclear as to the types of materials encompassed by the phrase "or the like".

5. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the use of coke or graphite as the type of carbon powder other than carbon black does not reasonably provide enablement for the use of any type of carbon powder other than carbon black. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The specification teaches the use of coke, graphite or the like as the type of carbon powder other than carbon black that is useable and therefore the claims should be limited to the use of coke or graphite as the carbon powder.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 the phrase "carbon powders other than carbon black" is vague and indefinite.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1755

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Courtenay et al (US Patent No. 4,561,912 A).

The reference teaches, in column 3, lines 35+, a flux used for continuous casting of steel comprising in parts by weight: amorphous calcium silicate 64, soda/silicate glass powder 18, sodium fluoride 13, carbon black 0.5, coke dust 2, starch 0.5, and sodium carbonate 4.

The instant claim is met by the reference as the reference teaches a composition that encompasses that which is instantly claimed.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cartwright (US Patent No. 4,041,199A).

The reference teaches, in the abstract, and column 1, lines 59+<, a refractory heat insulating material comprising 45-75% aluminosilicate fibers, 1-20 % of aluminum, magnesium or silicon in particulate form, and 2-16% of a binding agent consisting of

Art Unit: 1755

starch and colloidal silica. The composition may further contain up to 25% of inert particulate refractory material such as crush coke etc.

The instant claim is obvious over the reference as the reference provides the motivation to produce a composition that meets the instant claims. As for the amounts while the same amounts are not taught it does teach amounts that encompass the claimed amounts one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by the reference overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

12. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landis (US Patent No. 5,695,554 A).

The reference teaches, in the claims, a foundry sand for metal casting comprising a sand in the amount of about 70% to about 95% by weight, a binder for the

Art Unit: 1755

sand in an amount of about 1% to about 15% by weight, a ground ore in the amount of about 0.1% to about 10% by weight, a carbon source such as carbon or graphite in an amount of about 0.1% to about 10% by weight. The composition may further contain other common additives such as wood flour and cereals etc. in an amount of about 0.5% to about 5% by weight.

The instant claims are obvious over the reference as the reference provides the motivation to produce a composition that meets the instant claims. As for the amounts while the same amounts are not taught it does teach amounts that encompass the claimed amounts one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by the reference overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

With respect to claim 2 while the reference does not recite the use of an acid treated graphite this is a matter of obvious choice or design as it would have been obvious to

Art Unit: 1755

one of ordinary skill in the art to utilize any type of graphite without producing any unexpected results absent evidence showing otherwise.

13. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT International Patent Application No. 96/32216.

The reference teaches, on page 6 a mold flux comprising 45.0 - 90.0% refractory metal oxide, 10-50% fluxing agent, 0.3 - 1.5% expanding agent, 0.1 - 1.5% carbon black, 1.0- 5.0% manganese dioxide, 0.1-1.0% starch, 0-14% sodium carbonate, 0-7% lithium carbonate, 0-10% light-weight refractory material, and 0-6.0% carbonaceous material [other than carbon black and any expandable graphite present as expanding agent].

The instant claims are obvious over the reference. As for the amounts while the same amounts are not taught it does teach amounts that encompass the claimed amounts one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by the reference overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of

percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

With respect to claim 2 the reference recites, on page 2, that acid treated graphite may be used as the expanding agent. As for claims 3-4 dealing with the pigment, it is the position of the examiner that the manganese dioxide of the reference meets this limitation as manganese dioxide is a well known pigment. Accordingly the instant claims are obvious over the reference absent evidence showing otherwise.

Information Disclosure Statement

14. The remaining references have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

References Cited By The Examiner

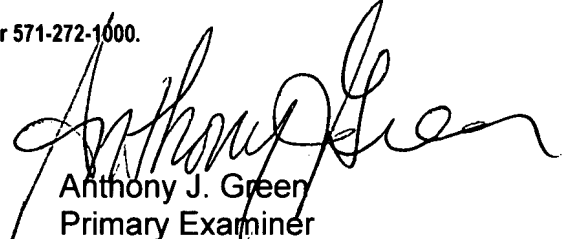
15. The remaining references have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Green whose telephone number is 571-272-1367. The examiner can normally be reached on Monday-Thursday 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1755

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Anthony J. Green
Primary Examiner
Art Unit 1755

ajg
May 18, 2007